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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,332	06/27/2003	John Carl Schotland	Schotland-WU5	7971
7590	06/20/2005		EXAMINER	
John T. Peoples 14 Blue Jay Court Warren, NJ 07059			HANNAHER, CONSTANTINE	
			ART UNIT	PAPER NUMBER
			2878	
DATE MAILED: 06/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/608,332

Applicant(s)

SCHOTLAND ET AL.

Examiner

Constantine Hannaher

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.                                                             | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION****Information Disclosure Statement**

1. As set forth in MPEP § 609:

37 CFR 1.98(b) requires that each item of information in an IDS be identified properly. U.S. patents must be identified by the inventor, patent number, and issue date. U.S. patent application publications must be identified by the applicant, patent application publication number, and publication date. U.S. applications must be identified by the inventor, the eight digit application number (the two digit series code and the six digit serial number), and the filing date. If a U.S. application being listed in an IDS has been issued as a patent, the applicant should list the patent in the IDS instead of the application. Each foreign patent or published foreign patent application must be identified by the country or patent office which issued the patent or published the application, an appropriate document number, and the publication date indicated on the patent or published application. Each publication must be identified by publisher, author (if any), title, relevant pages of the publication, date and place of publication. The date of publication supplied must include at least the month and year of publication, except that the year of publication (without the month) will be accepted if the applicant points out in the information disclosure statement that the year of publication is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the particular month of publication is not in issue. The place of publication refers to the name of the journal, magazine, or other publication in which the information being submitted was published.

**Oath/Declaration**

2. When applicant states that the post office address is the same as residence applicant's representative should keep in mind that a "residence" is a city and state or foreign country. The superfluous information given for residence is accepted as constituting a mailing address. The Office has been able to discern the city and state or foreign country of residence from the information supplied. See the requirements of 37 CFR 1.63(c)(1) as amended effective November 7, 2000.

**Specification**

3. The disclosure is objected to because of the following informalities: page 16, line 9, should read in part --nonlinear function--.

Appropriate correction is required.

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schotland (US005747810A) in view of Walnut *et al.* (US005953388A).

With respect to independent claim 1, Schotland discloses a method **700** (Fig. **7**) which comprises the steps of irradiating the object **610** (Fig. **6**) with a source **320** of radiation, measuring a data set of transmitted intensities of the recited type (column 5, lines 9-10, with detector **630**), and directly reconstructing the image by executing a prescribed mathematical algorithm of the recited type (column 5, lines 12-14, using computer **650**). Accordingly, the sole difference between the claim and the disclosure of Schotland is that the measured data set of transmitted intensities is not described in the applied reference as "both... sampled and limited." However, it is inherent in the operation of a CCD-type television camera as the detector **630** as disclosed by Schotland at column

10, lines 44-49 that the data set measured thereby is sampled (on the basis of the pixel pitch which samples spatially and the row-by-row readout which samples temporally). Walnut *et al.* shows (Fig. 15) that it is known in a method for generating an image of an object to limit the data set of measured transmitted intensities (from irradiation of the object by a source of radiation) to those transmitted intensities corresponding to a region of interest. In view of the reduction in exposure (of the object to the source of radiation) and computation described by Walnut *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit the data set of transmitted intensities measured in the method of Schotland.

With respect to dependent claims 2-4, the coefficient in the method of Schotland is a diffusion coefficient, an absorption coefficient, and both (column 5, line 10).

With respect to independent claim 5 and dependent claims 6-8, these claims differ from claims 1-4 only in the requirement that the measuring step be performed “in a paraxial arrangement.” In view of single source 620 (column 10, lines 40-44) and multiple detectors 630 (column 10, lines 44-49) in the method of Schotland such an arrangement exists in the disclosure.

With respect to dependent claim 9, the source 620 of radiation in the method of Schotland is a single source (column 10, lines 40-44) and the paraxial arrangement is composed of the single source 620 and an on-axis detector and at least one off-axis detector (in view of the extent of the CCD-type television camera, one of the pixels will be on-axis and at least one of the other pixels will be off-axis) and the measuring step in the method further comprises moving the arrangement using position controller 640.

With respect to independent claim 10, Schotland discloses a system 600 (Fig. 6) for generating an image 670 of an object 610 comprising a source 320 of radiation for irradiating the object, a detector arrangement 630 for measuring a data set of transmitted intensities of the recited

type (column 5, lines 9-10), and a reconstructor **650** for directly reconstructing the image by executing a prescribed mathematical algorithm of the recited type (column 5, lines 12-14).

Accordingly, the sole difference between the claim and the disclosure of Schotland is that the measured data set of transmitted intensities is not described in the applied reference as “both... sampled and limited.” However, it is inherent in a CCD-type television camera as the detector arrangement **630** as disclosed by Schotland at column 10, lines 44-49 that the data set measured thereby is sampled (on the basis of the pixel pitch which samples spatially and the row-by-row readout which samples temporally). Walnut *et al.* shows (Fig. **15**) that it is known in a system for generating an image of an object to limit the data set of measured transmitted intensities (from irradiation of the object by a source of radiation) to those transmitted intensities corresponding to a region of interest. In view of the reduction in exposure (of the object to the source of radiation) and computation described by Walnut *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit the data set of transmitted intensities measured in the system of Schotland.

With respect to dependent claims 11-13, the coefficient in the system of Schotland is a diffusion coefficient, an absorption coefficient, and both (column 5, line 10).

With respect to independent claim 14 and dependent claims 15-17, these claims differ from claims 10-13 only in the requirement that the detector arrangement be “in a paraxial arrangement.” In view of single source **620** (column 10, lines 40-44) and multiple detectors **630** (column 10, lines 44-49) in the system of Schotland such an arrangement exists in the disclosure.

With respect to dependent claim 18, the source **620** of radiation in the method of Schotland is a single source (column 10, lines 40-44) and the paraxial arrangement is composed of the single source **620** and an on-axis detector and at least one off-axis detector (in view of the extent of the

CCD-type television camera, one of the pixels will be on-axis and at least one of the other pixels will be off-axis)

**Response to Submission(s)**

7. This application has been published as US2004/0262520A1 on December 30, 2004.

**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ch

  
Constantine Hannaher  
Primary Examiner